

Appl. No. 10/526,342  
AMENDMENT dated 10/23/07

Attorney Docket No.: DN 99-009

### **REMARKS**

Claims 1, 4-9 and 12-16 are pending in this application. Claims 1, 4-9 and 12-16 are rejected.

In the accompanying Listing of Claims, claims 1 and 9 are amended. Claims 2, 3, 10, 11 and 17-20 are canceled. No new matter is added.

### **Information Disclosure Statement**

Applicants submit separately an Information Disclosure Statement in the present application. Applicants request that the examiner initial off in the appropriate location next to the listing of references and return the initialed form to applicants.

### **Claim Rejections Under 35 U.S.C. § 102**

Claims 1, 7, and 8 are rejected under 35 U.S.C. § 102 as allegedly being anticipated by United States Patent No. 3,150,926 to Pope. Although the reference cited in the Office Action is identified as Pope '929 applicants present response is based on the assumption that the examiner is referring to U.S. Patent 3,150,926 to Pope. Applicants respectfully traverse the rejection of the claims.

Independent claim 1 from which claims 7 and 8 depend recites:

providing calcium hydroxide having at least about 92 weight percent solids; and carbonating the calcium hydroxide with carbon dioxide gas and simultaneously comminuting for a time sufficient to produce a calcium carbonate having at least about a 90 weight percent conversion to calcium carbonate and having a solids concentration of at least about 92 weight percent.

Pope neither discloses nor suggests the above set forth features. Pope produces calcium carbonate by carbonating a mechanically fluidized bed of a mixture of calcium hydroxide and water. Pope neither discloses nor suggests the features of claim 1 in which calcium hydroxide is carbonated and comminuted for a time sufficient to produce a calcium carbonate having a solids concentration of at least about 92 weight percent. Pope produces calcium carbonate having a solids content of 80 to 90 percent by weight, preferably 82 to 87 percent by weight (col. 7, lines 66 to 75).

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Applicants also note that in Example I and II of the in column 9 of the Pope reference a calcium carbonate having a solids concentration of 85 percent by weight solids is achieved. Pope neither discloses nor suggests the feature of claim 1 in which calcium carbonate is produced having a solids concentration of at least about 92 weight percent. In the Office Action claim 3 of Pope is cited as reading on applicants feature of claim 1 to a calcium carbonate product having a solids concentration of at least about 92 weight percent because of Pope's teaching of a calcium carbonate product having a moisture content of 10 to 20 percent by weight. Claim 3 which is cited in the Office Action as reading on applicant's claims does not teach a calcium carbonate having a solids concentration of at least 92 weight percent.

Nowhere in Pope is there a mention of carbonating and simultaneously comminuting calcium hydroxide to produce a calcium carbonate having a solids concentration of at least 92 weight percent.

For a rejection to be sustained under 35 U.S.C. §102(b) each and every element of the claimed invention must be disclosed in the cited prior art reference. As the Pope reference fails to disclose at least one feature set forth in the claims, applicants respectfully request reconsideration and withdrawal of the rejection of claims 1, 7 and 8.

**Claim Rejections Under 35 U.S.C. § 103.**

Claims 1, 7 and 8 are rejected under 35 U.S.C. § 103(a) as allegedly being obvious over United States Patent No. 3,150,926 to Pope. Applicants respectfully traverse the rejection of the claims.

With respect to the rejection of claims 1, 7 and 8, applicants note that the Office Action does not contain on pages 2 or 3 an obviousness statement as to what teaching, suggestion or motivation there is in the Pope reference to arrive at the present invention nor is there a reasonable expectation of success for a person of ordinary skill who reads the reference to arrive at the present invention. In particular, applicant respectfully submits that Pope teaches away from producing a calcium hydroxide which is substantially free from water, having at least about 92 weight percent solids. Pope discloses a process for producing calcium carbonate that requires an excess of water to prevent excessively high temperatures, sufficient excess water being used such that the carbonate product is discharged in a preferred range of 82 to 87 percent total solids by weight (col. 3, lines 15 to 23).

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Pope further discloses that a lowering of the excess water results in excessively high temperatures which have a detrimental effect, since there is insufficient water to be vaporized as steam while absorbing the enormous quantity of exothermic heat generated (col. 3, lines 24 to 30). Moreover, Pope discloses that, as the quantity of carbonate produced exceeds much beyond 90 percent, it is accompanied by a corresponding increase in free lime content owing to the lack of complete reaction of carbon dioxide with alkali metal hydroxide (col. 7, lines 68 to 72). As such, Pope teaches away from producing a calcium hydroxide that is substantially free from water, and therefore it is submitted that the reference contains no teaching, suggestion or motivation to arrive at the present invention nor is it obvious to try to carry out the present invention given that Pope clearly teaches away from the invention.

Accordingly, it would not have been obvious to one of ordinary skill in the art at the time of the invention to modify the Pope reference based on the teachings of the Pope reference to arrive at the present invention. Therefore, applicants respectfully request reconsideration and withdrawal of the rejection of claims 1, 7 and 8.

**Claim Rejection Under 35 U.S.C. § 103**

Claims 4-6, 9 and 12-16 are rejected as being obvious under 35 U.S.C. § 103(a) over U.S. Patent 3,150,926 to Pope. Applicants respectfully traverse the rejection of the claims.

On page 3 of the Office Action, Example II of the Pope reference is cited in the Office Action for its teaching of greater than 98 percent hydrated lime or  $\text{Ca}(\text{OH})_2$ . The Office Action then states that based on Example II it would have been obvious to produce a precipitated calcium carbonate according to the invention having 92 weight percent solids. Applicants submit that Example II does not render applicants invention obvious as Example II itself only produces calcium carbonate with a percent of total solids of 84.7 percent which is far short of the claim 92 weight percent of applicant's invention.

Further, applicants submit that for the reasons given above, Pope does not provide a teaching suggestion or motivation to arrive at the present invention. Pope further discloses that a lowering of the excess water results in excessively high temperatures which have a detrimental effect, since there is insufficient water to be vaporized as steam while absorbing the enormous quantity of exothermic heat generated (col. 3, lines 24 to 30). Moreover, Pope discloses that, as the

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quantity of carbonate produced exceeds much beyond 90 percent, it is accompanied by a corresponding increase in free lime content owing to the lack of complete reaction of carbon dioxide with alkali metal hydroxide (col. 7, lines 68 to 72). As such, Pope teaches away from producing a calcium hydroxide that is substantially free from water, and therefore it is submitted that the reference contains no teaching, suggestion or motivation to arrive at the present invention nor is it obvious to try to carry out the present invention given that Pope clearly teaches away from the invention.

Accordingly, it would not have been obvious to one of ordinary skill in the art at the time of the invention to modify the Pope reference to arrive at the present invention.

Therefore, applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. § 103(a) rejection of claims 4-6, 9 and 12-16.

### **CONCLUSION**

The amendments presented herein are fully supported by the disclosure as originally filed and no new matter has been added. Applicant believes that the pending claims as amended are in condition for allowance. Should Examiner not agree with Applicants' position, then a telephone interview is respectfully requested to discuss any remaining issues and expedite the eventual allowance of the application.

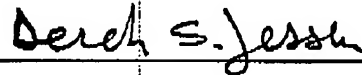
Applicants respectfully request a two-month extension of time for responding to the Office Action. Please charge the fee of \$ 460.00 for the extension of time to Deposit Account No. 13-3639.

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No additional fees are believed due for the filing of this amendment and response. Should any additional fees be required, please charge these fees to Minerals Technologies Inc. Deposit Account No. 13-3639.

Respectfully submitted,



October 23, 2007

Date

Derek S. Jessen  
Reg. No. 48,213  
Minerals Technologies, Inc.  
1 Highland Avenue  
Bethlehem, PA 18017  
(610) 861-3839